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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,965	01/03/2001	Clark Debs Jeffries	RAL920000100US1	1702
47052	7590	02/04/2005	EXAMINER	
SAWYER LAW GROUP LLP			KADING, JOSHUA A	
PO BOX 51418			ART UNIT	
PALO ALTO, CA 94303			PAPER NUMBER	
			2661	

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/753,965

Applicant(s)

JEFFRIES ET AL.

Examiner

Joshua Kading

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9-14-04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

5 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10

Claims 1-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bawa et al. (U.S. Patent 6,697,333 B1) in view of Bertin et al. (U.S. Patent 6,400,681 B1).

15 Regarding claim 1, Bawa discloses "a method for providing a path for a new flow between a source node and a destination node in a network having a plurality of nodes and a plurality of links between the plurality of nodes, the plurality of nodes including the source node and the destination node, each of the plurality of links capable of including

20 a plurality of existing flows and having a capacity, each of the plurality of existing flows including a minimum guaranteed bandwidth, the method comprising the steps of:

(a) for a node of the plurality of nodes, determining a benefit for each link of a portion of the plurality of links, the portion of the plurality of links being coupled with the node...the node being a part of the path (col. 2, lines 60-64 where the bandwidth

25 utilization is directly proportional to the available bandwidth, which is equivalent to the benefit, because the more bandwidth utilized the less benefit the link has, i.e. the total

capacity of the link less the bandwidth utilized gives the amount of bandwidth available);  
and

(b) selecting a link of the portion of the plurality of links to be part of the path, the link having a maximum benefit for the first portion of the plurality of links, the link  
5 coupling the node with a second node of the plurality of nodes (col. 2, lines 60-64)."

However, Bawa lacks what Bertin discloses, that is "...the benefit being  
determined based on the capacity of the link and the minimum guaranteed bandwidth  
for a portion of the plurality of existing flows that is through the link (col. 10, lines 8-40  
where the equivalent capacity represents a guaranteed minimum bandwidth for the  
10 link)..."

It would have been obvious to one with ordinary skill in the art at the time of  
invention to include the benefit being determined based on the link capacity and  
minimum bandwidth for the purpose of determining how much a link can be loaded. The  
motivation for this being that links cannot be loaded up to their theoretical limits,  
15 therefore the actual limit must be known so as to not overload the link.

Regarding claim 9, Bawa discloses "a system for providing a path for a new flow  
between a source node and a destination node in a network having a plurality of nodes  
and a plurality of links between the plurality of nodes, the plurality of nodes including the  
20 source node and the destination node, each of the plurality of links capable of including  
a plurality of existing flows and having a capacity, each of the plurality of existing flows  
including a minimum guaranteed bandwidth, the system comprising:

...determining a benefit for each link of a portion of the plurality of links, the portion of the plurality of links being coupled with the node...the node being a part of the path (col. 2, lines 60-64 where the bandwidth utilization is directly proportional to the available bandwidth, which is equivalent to the benefit, because the more bandwidth utilized the less benefit the link has, i.e. the total capacity of the link less the bandwidth utilized gives the amount of bandwidth available); and

...selecting a link of the portion of the plurality of links to be part of the path, the link having a maximum benefit for the first portion of the plurality of links, the link coupling the node with a second node of the plurality of nodes (col. 2, lines 60-64)..."

However, Bawa lacks what Bertin discloses, that is "first logic..." for the implementing the determining step (figure 3, element 305, col. 8, lines 61-col. 9, lines 1-8) and "second logic..." for implementing the selecting step (figure 3, element 305, col. 8, line 17), "...the benefit being determined based on the capacity of the link and the minimum guaranteed bandwidth for a portion of the plurality of existing flows that is through the link (col. 10, lines 8-40 where the equivalent capacity represents a guaranteed minimum bandwidth for the link)...", and "a memory coupled to the first logic and the second logic, the memory for storing identity of the link (figure 3, element 308 and 306)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the first and second logic, the memory, and the benefit being determined based on the link capacity and minimum bandwidth for the purpose of determining how much a link can be loaded. The motivation for this being that links

cannot be loaded up to their theoretical limits, therefore the actual limit must be known so as to not overload the link.

Regarding claim 2, Bawa and Bertin disclose the method of claim 1. However,  
5 Bertin lacks what Bawa further discloses, that is "the steps of (c) determining a next node of the plurality of nodes as being a node connected to the link selected in step (b) (col. 2, lines 60-65)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the extra steps with the method of claim 1 for the same reasons and motivation as in claim 1.

10  
Regarding claim 10, Bawa and Bertin disclose the system of claim 9. However, Bertin lacks what Bawa further discloses, that is "determines a next node of the plurality of nodes as being a node connected to the link selected by the second logic (col. 2, lines 60-65)." It would have been obvious to one with ordinary skill in the art at the time  
15 of invention to include the extra steps with the system of claim 9 for the same reasons and motivation as in claim 9.

Regarding claims 3 and 11, Bawa and Bertin disclose the method of claim 1 and the system of claim 9. However, Bawa lacks what Bertin further discloses, that is "the  
20 benefit is the capacity minus the sum of the minimum guaranteed bandwidth for each existing flow of the portion of the plurality of existing flows through the link (col. 10, lines 41-53 where again the benefit is directly proportional to the capacity and available

capacity).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the further definition of the benefit with the method of claim 1 and the system of claim 9 for the same reasons and motivation as in claims 1 and 9.

5           Regarding claim 4, Bawa and Bertin disclose the method of claim 2. However, Bertin lacks what Bawa further discloses, that is “(d) repeating the benefit determining step (a), the link selecting step (b) and the next node determining step (c) until the destination node is reached (col. 2, lines 60-col. 3, line 1).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the repeating until  
10 the destination node is reached with the method of claim 2 for the same reasons and motivation as in claim 2.

          Regarding claims 5 and 12, Bawa and Bertin disclose the method of claim 3 and the system of claim 9. However, Bawa and Bertin lack “determining a net benefit for the  
15 path, the net benefit of the path being the lowest maximum benefit.” Although both Bawa and Bertin specifically lack determining a net benefit for a path based on the lowest maximum benefit of the links in the path, it would have been obvious to one with ordinary skill in the art at the time of invention to choose the lowest maximum benefit as an overall net benefit for the path. The reason is that a path in a communication system  
20 can only handle as much bandwidth as the lowest capacity of the links that make up the path. If an overall net capacity for a path is chosen that was higher than one of the links could handle the communication path could not transmit data. The motivation for

choosing the lowest link benefit for the overall path net benefit is that this will allow communication to commence on the given path.

Regarding claims 6 and 13, Bawa and Bertin disclose the method of claim 2 and  
5 the system of claim 10. However, Bawa lacks what Bertin further discloses, that is  
“eliminating a particular link of the portion of the plurality of links if the benefit for the  
particular link is less than or equal to zero (col. 10, lines 49-53 where although the  
specific values are not zero or less, these threshold values are design choices and the  
basic concept of eliminating a link (by not selecting it) based on the fact that is below a  
10 threshold is disclosed in Bertin).” It would have been obvious to one with ordinary skill in  
the art at the time of invention to include the eliminating a link with the method of claim 2  
and the system of claim 10 for the same reasons and motivation as in claims 2 and 10.

Regarding claim 8, Bawa discloses “a method for providing a path for a new flow  
15 between a source node and a destination node in a network having a plurality of nodes  
and a plurality of links between the plurality of nodes, the plurality of nodes including the  
source node and the destination node, each of the plurality of links capable of including  
a plurality of existing flows and having a capacity, each of the plurality of existing flows  
including a minimum guaranteed bandwidth, the method comprising the steps of:

20 (a) for a node of the plurality of nodes, determining a benefit for each link of a  
portion of the plurality of links, the portion of the plurality of links being coupled with the  
node...the node being a part of the path (col. 2, lines 60-64 where the bandwidth



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utilization is directly proportional to the available bandwidth, which is equivalent to the benefit, because the more bandwidth utilized the less benefit the link has, i.e. the total capacity of the link less the bandwidth utilized gives the amount of bandwidth available); and

- 5 (b) selecting a link of the portion of the plurality of links to be part of the path, the link having a maximum benefit for the first portion of the plurality of links, the link coupling the node with a second node of the plurality of nodes (col. 2, lines 60-64)."

However, Bawa lacks what Bertin discloses, that is "...the benefit being determined based on the capacity of the link and the minimum guaranteed bandwidth  
10 for a portion of the plurality of existing flows that is through the link (col. 10, lines 8-40 where the equivalent capacity represents a guaranteed minimum bandwidth for the link)..."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the benefit being determined based on the link capacity and  
15 minimum bandwidth for the purpose of determining how much a link can be loaded. The motivation for this being that links cannot be loaded up to their theoretical limits, therefore the actual limit must be known so as to not overload the link.

Bawa and Bertin further lack "a computer-readable medium including a program for providing a path for a new flow between a source node and a destination node in a  
20 network having a plurality of nodes and a plurality of links between the plurality of nodes, the plurality of nodes including the source node and the destination node, each of the plurality of links capable of including a plurality of existing flows and having a

capacity, each of the plurality of existing flows including a minimum guaranteed bandwidth..." where the steps of the program are the method disclosed by Bawa and Bertin.

5 It would have been obvious to one with ordinary skill in the art at the time of invention to have the computer-readable medium with program implement the method steps because the only way to manipulate and control electrical data signals in a communication system is to use a computer program. The motivation is that a computer program offers the most efficient and effective way to deal with electrical signals.

10 Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bawa et al. and Bertin et al. as applied to claims 2 and 10 above, and further in view of Jurkevich et al. (U.S. Patent 5,164,938).

Regarding claims 7 and 14, Bawa and Bertin disclose the method of claim 2 and the system of claim 10 including "determining whether the path between the source  
15 node and destination node can exist (Bertin, col. 10, lines 49-53 where if the link is not selected than the path(s) the link belongs to cannot exist)." However, Bawa and Bertin lack what Jurkevich discloses, that is "notifying a user if the path cannot exist (cols. 43 and 44, claim 13 where the subscriber is notified of the need to reallocate because a path is too congested or cannot exist)." It would have been obvious to one with ordinary  
20 skill in the art at the time of invention to include the notifying the user with the method of claim 2 and the system of claim 10 for the purpose of allowing the user to know which paths are not acceptable transmission paths. The motivation for this being that the user

can appropriately respond by selecting different paths or fixing the congestion problem on the congested path.

***Response to Arguments***

5           Applicant's arguments, see REMARKS/ARGUMENTS, page 2, paragraphs 2 and 3, filed 14 September 2004, with respect to the objection of the IDS filed 3 January 2001 and the objection to the originally filed drawings have been fully considered and are persuasive. The objections to the IDS and drawings have been withdrawn.

10           Applicant's arguments filed 14 September 2004 have been fully considered but they are not persuasive.

            Applicant argues that Bertin does not disclose the deficiencies of Bawa as set forth in the first Office Action because Bertin does not disclose the use of a minimum guaranteed capacity for use in calculating the benefit. The examiner respectfully  
15   disagrees.

            As the applicant notes on page 5, lines 18-20 of the REMARKS/ARGUMENTS, Bertin discloses that the "equivalent capacity" falls somewhere between the average bandwidth required by the user and the capacity of the link. The idea of a minimum guaranteed capacity falls within this very disclosure in Bertin.

20           Since the "equivalent capacity" (used as an equivalent to the minimum guaranteed capacity) has a minimum value within its range of values, i.e. the average required bandwidth of the user, the "equivalent capacity" is a form of a minimum

guaranteed capacity. This is because the "equivalent capacity" is never going to drop below this minimum value and therefore, guarantees at least the average required bandwidth as a form of minimum guaranteed bandwidth.

5           Applicant further argues, on page 5, lines 16-18 of the REMARKS/ARGUMENTS that Bertin uses the reserved bandwidth, where the reserved bandwidth is not the minimum bandwidth of the flows. This may be the case, but this is not how the claims are written. Specifically, the claims state "...the benefit being determined for a portion of the plurality of existing flows..." The user of Bertin fully accounts for "a portion of the  
10   plurality of existing flows" and thus reads on applicant's claims.

          In response to applicant's argument that "Bertin describes using concerns such as network control functions and short term violations in determining the reserved bandwidth. Applicant respectfully submits that the minimum guaranteed bandwidth is  
15   not substantially related to either of these concerns", the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

20

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within  
5 TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later  
10 than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

15 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

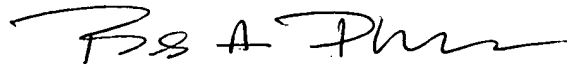
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

- 5 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joshua Kading  
Examiner  
Art Unit 2661

10 January 27, 2005



**BOB PHUNKULH**  
**PRIMARY EXAMINER**